Appl. No.: 10/729,560
Amdt. dated 05/10/2005
Reply to Office action of February 10, 2005

Amendments to the Claims:

Please amend Claims 5, 11, and 19 as follows:

1. (original) A communication system adapted to interconnect a bus controller with an associated data channel via a common digital bus, the communication system comprising:

a bus controller connected to the common digital bus for communicating in an asynchronous mode with a data channel across the common digital bus; and

a network device interface connected between the common digital bus and an associated data channel, wherein said network device interface transmits commands to and receives data from the associated data channel based on commands from said bus controller

wherein said bus controller transmits messages containing a plurality of bits having a value defined by a transition between first and second states of the bits,

wherein said network device interface evaluates the messages transmitted by said bus controller in order to determine a timing of the data sequence of the message and uses the determined timing to communicate with said bus controller.

2. (original) A communication system according to Claim 1, wherein said network device interface uses the determined timing to communicate with the data channel connected to said network device interface.

3. (original) A communication system according to Claim 1, wherein said bus controller transmits messages having Manchester encoded bits.

4. (original) A communication system according to Claim 1, wherein the messages transmitted by said bus controller contain a plurality of bits having a value defined by a transition between first and second states that occurs at the center of each bit.

5. (currently amended) A communication system according to Claim 1 ~~further comprising a local oscillator connected to said network device interface for providing a data rate to said network device interface for use in receiving messages from said bus controller, and~~

wherein said network device interface uses the timing determined from evaluation of messages transmitted by said bus controller independent of a local oscillator ~~in place of timing provided by said local oscillator to receive messages from said bus controller~~.

6. (original) A communication system according to Claim 1 further comprising a local oscillator connected to said network device interface for providing a data rate to said network device interface for use in receiving messages from said bus controller, and wherein said network device interface uses the timing determined from evaluation of messages transmitted by said bus controller to compensate for deviations in timing provided by said local oscillator.

7. (original) A method for communicating between a bus controller and an associated data channel via a common digital bus comprising the steps of:

providing a network device interface connected between the common digital bus and the associated data channel, wherein said network device interface transmits commands to and receives data from the associated data channel based on commands from said bus controller;

transmitting messages to the network device interface containing a plurality of bits having a value defined by a transition between first and second states in the bits;

determining a timing of the data sequence of the message transmitted by said bus controller; and

using the determined timing to communicate with said bus controller.

8. (original) A method according to Claim 7, wherein said using step further uses the determined timing to communicate between the network device interface and the data channel.

9. (original) A method according to Claim 7, wherein said transmitting step transmits messages having Manchester encoded bits.

10. (original) A method according to Claim 7, wherein said transmitting step transmits messages transmitted containing a plurality of bits having a value defined by a transition between first and second states that occurs at the center of each bit.

11. (currently amended) A method according to Claim 7 wherein ~~the network device interface has a local oscillator for providing a data rate to said network device interface for use in receiving messages from the bus controller, and wherein~~ said using step uses the timing determined from evaluation of messages transmitted by the bus controller independent of a timing signal from a local oscillator ~~in place of timing provided by the local oscillator to receive messages from the bus controller~~.

12. (original) A method according to Claim 7 wherein the network device interface has a local oscillator for providing a data rate to said network device interface for use in receiving messages from the bus controller, and wherein said using step uses the timing determined from evaluation of messages transmitted by the bus controller to compensate for deviations in timing provided by the local oscillator.

13. (original) A communication system adapted to interconnect a bus controller with an associated data channel via a common digital bus, the communication system comprising:

a bus controller connected to the common digital bus for communicating in an asynchronous mode with a data channel across the common digital bus;

a network device interface connected between the common digital bus and the associated data channel, wherein said network device interface transmits commands to and receives data from the associated data channel based on commands from said bus controller; and

a local oscillator connected to said network device interface for providing a data rate to said network device interface for use in receiving messages from said bus controller,

wherein said bus controller transmits messages containing a plurality of bits having a value defined by a transition between first and second states of the bits,

wherein said network device interface evaluates the messages transmitted by said bus controller in order to determine a timing of the data sequence of the message to thereby compensate for deviations in said local oscillator from an expected data rate to thereby prevent disruptions in communications between said bus controller and said network device interface.

14. (original) A communication system according to Claim 13, wherein said network device interface uses the determined timing determined from evaluation the messages transmitted from said bus controller to communicate with the data channel connected to said network device interface.

15. (original) A communication system according to Claim 13, wherein said bus controller transmits messages having Manchester encoded bits.

16. (original) A communication system according to Claim 13, wherein the messages transmitted by said bus controller contain a plurality of bits having a value defined by a transition between first and second states that occurs at the center of each bit.

17. (original) A communication system according to Claim 13, wherein said network device interface uses the timing determined from evaluation of messages transmitted by said bus controller in place of timing provided by said local oscillator to receive messages from said bus controller.

18. (original) A communication system according to Claim 13, wherein said network device interface uses the timing determined from evaluation of messages transmitted by said bus controller to compensate for deviations in timing provided by said local oscillator.

19. (currently amended) A method for communicating between a bus controller and an associated data channel via a common digital bus comprising the steps of:

providing a network device interface connected between the common digital bus and the associated data channel, wherein said network device interface transmits commands to and receives data from the associated data channel based on commands from said bus controller;

providing a data rate to the network device interface via a local oscillator for use in receiving messages from the bus controller; ~~and~~

transmitting messages to the network device interface containing a plurality of bits having a value defined by a transition between first and second states in the bits;

determining a timing of the data sequence of the message transmitted by said bus controller; and

using the determined timing to communicate with said bus controller, thereby allowing said local oscillator to deviate from an expected data rate without disrupting communication between the bus controller and said network device interface.

20. (original) A method according to Claim 19, wherein said using step further uses the determined timing to communicate between the network device interface and the data channel.

21. (original) A method according to Claim 19, wherein said transmitting step transmits messages having Manchester encoded bits.

22. (original) A method according to Claim 19, wherein said transmitting step transmits messages transmitted containing a plurality of bits having a value defined by a transition between first and second states that occurs at the center of each bit.

23. (original) A method according to Claim 19 wherein said using step uses the timing determined from evaluation of messages transmitted by the bus controller in place of timing provided by the local oscillator to receive messages from the bus controller.

24. (original) A method according to Claim 19 wherein said using step uses the timing determined from evaluation of messages transmitted by the bus controller to compensate for deviations in timing provided by the local oscillator.